

Policy, Planning, and Research

WORKING PAPERS

World Development Report

Office of the Vice President
Development Economics
The World Bank
August 1988
WPS 42

Background Paper for the 1988 World Development Report

Government Pay and Employment Policies and Government Performance in Developing Economies

David L. Lindauer

Excessive spending on public employment has contributed significantly to fiscal crises in many developing nations. Less visible, but also important for development, is the impact of pay and employment policies on government performance.

The Policy, Planning, and Research Complex distributes PPR Working Papers to disseminate the findings of work in progress and to encourage the exchange of ideas among Bank staff and all others interested in development issues. These papers carry the names of the authors, reflect only their views, and should be used and cited accordingly. The findings, interpretations, and conclusions are the authors' own. They should not be attributed to the World Bank, its Board of Directors, its management, or any of its member countries.

Policy, Planning, and Research

WORKING PAPERS

World Development Report

Governments should pay more attention to the influence of pay and employment policies on their ability to provide goods and services efficiently.

Rapid and sustained expansion of government employment is common in developing nations. Governments often find it politically difficult to dismiss public workers, even in the face of rising deficits.

An increase in public employment without a commensurate increase in complementary inputs can add to labor redundancy. Increases in salary costs may also crowd out expenditures for materials, equipment, construction, infrastructure, and other inputs.

Many governments use public jobs as a means of lowering urban unemployment. This frequently results in a bottom-heavy structure, with employment concentrated in lower salary grades, and far too many workers for managers to use effectively.

It is also common for governments, in times of fiscal crisis, to reduce the relative pay of more skilled and experienced personnel rather than fire less skilled and redundant labor. This prompts some managers and professionals to

quit and leads others to reduce their work effort or moonlight. It also takes a toll on civil service morale and discipline.

A recent study of government policies in Sub-Saharan Africa found, for example, widespread declining levels of real pay, especially at higher salary grades, and excessive compression of the government pay structure. These policies have contributed to growing government inefficiency.

Government employment practices need to be reformed not only because growing wage bills are outpacing tax and export revenues, but also because effective public administration is so important to development. In many countries, a smaller, better-paid civil service might outperform a larger, more poorly paid work force. Because government economic and social roles are so large in many countries, better performance would mean faster development.

This is a background paper for the 1988 World Development Report. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

The PPR Working Paper Series disseminates the findings of work under way in the Bank's Policy, Planning, and Research Complex. An objective of the series is to get these findings out quickly, even if presentations are less than fully polished. The findings, interpretations, and conclusions in these papers do not necessarily represent official policy of the Bank.

Government Pay and Employment Policies and Government Performance in Developing Countries

by
David L. Lindauer

Table of Contents

I.	The Analysis of Government Pay and Employment Policies.....	3
II.	Causes and Consequences of Inappropriate Government Pay and Employment Policy	5
	A. Three Categories of Problems.....	5
	B. Resource Misallocation in Government Production.....	7
III.	Recent Trends.....	12
	A. Compensation.....	13
	B. Employment.....	17
	C. Wage Bill.....	20
IV.	Conclusion.....	24
	Notes.....	25
	Tables.....	28
	Bibliography.....	34

David L. Lindauer is an Associate Professor in the Department of Economics, Wellesley College.

In Ghana, government employment is estimated to have grown by 15.0% per annum from 1975 to 1982 while real per capita income declined by 4.8% per year. Between 1972 and 1982 the real starting salaries for some professional grade Jamaican civil servants are estimated to have dropped by as much as 70%. In Sri Lanka, the ratio of salaries from the top to the bottom of the government pay structure fell from 9.6:1 in 1975 to 4:1 in 1983, resulting in a pay structure far more compressed than in any neighboring country.

These examples suggest that in many developing countries significant changes in government pay and employment have been taking place. Such changes often reflect the macroeconomic and fiscal crises experienced throughout Africa, Asia and Latin America. The consequences of these changes on government performance and, more generally, on prospects for economic growth and development, however, are not well understood.

The aim of this paper is to offer some systematic examination of government pay and employment trends in developing nations. In Section I, the difficulties inherent in analyzing government pay and employment policies are considered. Special attention is given to weaknesses in public expenditure theory and to the non-market character of government output. Section II highlights the problems generated by inappropriate government pay and employment policies. These include fiscal imbalance, negative spillover

effects onto non-government sectors and input mix inefficiencies in government production. Most attention is given to the last of these, that is, how government performance as a provider of goods and services is affected by inappropriate pay offers or the pursuit of independent government employment objectives. Section III presents the available evidence on recent trends in government pay and employment in developing nations. Movements in real government pay, wage compression, public sector employment growth and the wage bill are considered. Section IV offers a brief conclusion.

I. The Analysis of Government Pay and Employment Policies

Evaluation of government pay and employment policies has received less attention in policy dialogue and in the academic literature than have other expenditure questions. By comparison, the tradeoffs between recurrent versus capital costs, debt service versus domestic spending, defense versus civilian needs, and social sector versus infrastructure development have been more widely discussed. To the extent that all government functions are affected by the number, quality and motivation of public servants, issues of government pay and employment are also of importance.

The evaluation of government pay and employment policies, however, is difficult. As with other expenditures issues, the analysis is hampered by the lack of a well defined theory of public production. What we do have from the theory of public finance is a guide to the problem of public provision. A central thesis is the notion of non-rival consumption which renders exclusion

inefficient and which calls for budgetary provisions for particular goods. But this insight tells us nothing about the desirability, if any, of public production and, hence, of the need for public employment.¹

An alternative approach to evaluating government pay and employment is to take as given those goods and services chosen for public production and to consider whether such production is efficient in terms of input use and unit costs. Such evaluations, however, face their own constraints. For one, since the government is often a monopoly supplier, there may be no basis upon which to compare the efficiency of its production. Second, the non-market character of most government services precludes the use of market tests of efficiency. Government productivity data, based on input costs as a measure of output, reflect this problem. Third, the non-tradeable character of most government production suggests that border prices are unavailable as points of reference. Unlike the cases of, say, agricultural price distortions, one cannot turn to world prices as an index of excessive or insufficient pay for government workers. Even domestic private sector wages are an imperfect standard. Given the magnitude of government as a wage employer, private wages are never independent of a government's own wage and employment decisions. Furthermore, the relative security of public jobs imparts a compensating differential problem precluding any simple comparison of public versus private pay.

The analysis of appropriate government pay and employment policies is further handicapped by the multiplicity of objectives which guide such policies. Cost minimization of publicly produced goods and services competes with independent employment and wage objectives which may serve political or ideological purposes. In addition, while the level and structure of pay and employment influence government performance, management practices and

administrative policies also play a critical role. The link between pay and employment and performance criteria can, therefore, be obscure. Information problems are also extreme. Many governments do not even know how many workers are employed in the public sector while the profusion of non-wage payments complicates the calculation of compensation figures. Finally, the public sector is rarely one homogeneous unit pursuing a single well articulated pay and/or employment policy. Instead, treatment of different grades of workers (skilled versus unskilled) or types of workers (civil servants versus state enterprise employees) may diverge significantly requiring separate analysis.

The numerous limitations and constraints on the analysis of government pay and employment represent significant hurdles to the proper evaluation of prevailing policies. However, given the degree of policy change experienced in many settings and the coincident rise and concern over government performance, the subject continues to warrant attention.

II. Causes and Consequences of Inappropriate Government Pay and Employment Policy

A. THREE CATEGORIES OF PROBLEMS

Three broad categories of problems associated with government pay and employment policy can be identified. One can be referred to as fiscal imbalance and concerns the relationship between government expenditures and tax revenues. At issue are the macroeconomic consequences of deficits or increases in taxes required to finance government spending, including government employment expenditures. Especially in periods of budgetary deficits, prevailing government wage bills may be considered inconsistent with

sound fiscal management. Restraint, if not outright reductions, in both public pay and employment is one of several options which needs to be considered to resolve the fiscal imbalance. In some countries, concern over wage bill requirements has been voiced in the context of stabilization programs, most prominently in negotiations with the IMF.

The second category of government pay and employment policy problems involves spillover effects. Discussed in both the academic and policy literature, the issue is frequently argued in terms of high government wages spilling over to non-government employers.² If such public/private wage relationships exist, both employment generation and output growth in the private sector will be impaired. Prior to the severe budgetary crises of the 1980's, this notion of detrimental government "wage leadership" motivated much of the explicit treatment of government pay policy as an area in need of reform.³ Under depressed macroeconomic conditions governments are less likely to act as "wage leaders" than they are to pursue public employment policies designed to "mop-up" excess supplies of urban labor. In this context, the spillover effects of government employment would be on the resulting levels of un- and under-employment for particular types of labor.

The third type of problem associated with inappropriate government pay and employment policy involves the relationship between government pay and employment determination and a government's own performance as a producer of goods and services. This particular dimension of the evaluation of government pay and employment policy has received less attention in both policy dialogue and the academic literature than have the categories already mentioned. This is unfortunate because a government's failure to effectively provide public

goods and services to an economy also may have dire consequences on private sector performance.

Increasing concern, especially at the World Bank, over deteriorating government performance from the level of individual projects to that of national public management, has prompted interest in the relationship between government pay and employment policies and government performance. In keeping with the focus of the 1988 WDR on government as a direct economic agent, the remainder of this paper primarily considers this relationship.

B. RESOURCE MISALLOCATION IN GOVERNMENT PRODUCTION

Throughout the developing world, governments are accused of gross inefficiencies in producing a broad range of goods and services. Examples include teachers who have no textbooks or chalk to teach with, public health workers with insufficient supplies of vaccines, and agricultural extension workers without fuel for their vehicles. Gross redundancies in civil service staffing are also frequently reported. Examples include corridors full of seemingly unproductive messengers outside the offices of overworked senior administrators. In still other settings, high vacancy rates for professional positions, widespread absenteeism of government workers, or pursuit of other than official business during working hours may be commonplace.

What these examples share in common is the potential for an inefficient mix of inputs in the production of government output. It may be that too much or too little labor is employed relative to the availability of non-labor inputs. Or, the combination of labor skills hired for a particular task may be more costly than some other mix of labor skills capable of producing the

same level of output. While a host of management and administrative practices are crucial to efficient public production, along some margin government pay and employment policies are likely to be important in promoting appropriate input use as well.

Turning first to the mix of labor and non-labor inputs, especially under conditions of fiscal contraction, government production may become excessively labor-intensive. This will occur if purchases of goods and services are disproportionately sacrificed relative to wage bill expenditures.

Tendencies to favor labor payments over non-labor purchases can be traced to a number of constraints. On the employment side, most governments find it difficult to dismiss civil servants. This is often because of the desire to maintain an "unpoliticized" public service. This goal can lead to employment contracts which either explicitly or implicitly contain tenure provisions. Similarly, the firing of public workers may be perceived as politically sensitive, providing additional degrees of job protection to government workers. The resulting quasi-fixed status of nominal labor payments out of the budget can be reflected in institutional arrangements. For example, in Senegal a presidential order has been required for stopping any civil servant's pay. Such conditions suggest that budgetary cutbacks may prompt reductions in non-labor purchases before wage bill adjustments are made.

Government employment policies may further exacerbate input mix inefficiency if public employment programs are initiated in response to growing national unemployment. Any expansion in public employment, no matter how well intentioned, without a commensurate increase in complementary inputs will add to labor redundancy in government production. In addition to

employment decisions, government pay policies may also lead to growing wage bill shares which distort the labor/non-labor input mix in government production. Pay offers in excess of worker opportunity costs may "crowd-out" expenditures which would otherwise have gone to finance non-labor inputs.

A rising ratio of wage to non-wage expenditures may be a signal of a growing imbalance between labor and non-labor inputs in government production. However, care must be exercised in drawing such a conclusion based on expenditure data alone. After all, relative increases in labor to non-labor payments may reflect changes in relative input prices or an intended shift in the composition of public output towards more labor-intensive products -- e.g., a shift towards social sectors and away from infrastructure development. While no simple test of the appropriate labor intensity of government production exists, sudden shifts in the wage bills relative share of total expenditures may be a warning sign of a growing imbalance in the input mix employed.

Beyond the relationship between non-labor and labor inputs lies the problem of reaching appropriate complementarities between labor skills. An imbalance between numbers of managers and numbers of workers (or between professionals, skilled and unskilled labor) may prove as inefficient a use of fiscal resources as a lack of complementary equipment or raw materials. The choice of both pay and employment policy, of course, will influence the mix of labor skills in public employment. In the area of employment policy, a tendency to use government jobs as a means of lowering urban unemployment can result in an employment structure which is bottom heavy, that is, with employment concentrated in the lowest salary grades to a degree unwarranted by government production requirements.

Pay policies which lead to significant compression in the government wage structure may have a similar effect on the structure of government employment, but achieved through a different mechanism. Wage compression is often financed by reducing the relative pay of more skilled and experienced personnel in order to minimize the decline in real earnings at the base of the employment pyramid. If resulting government wage offers for skilled and managerial staff fall below non-government offers, and if unskilled workers in government are better compensated than their private sector counterparts, then differential vacancy and turnover rates will lead to an inefficient mix of labor skills. Managers, professionals and skilled workers will be in short supply while unskilled posts will be filled. Regardless of the appropriateness of the mix of skills provided for by the budget, in practice, government production will face an inefficient combination of employed labor inputs.

Beyond problems of input mix lie other efficiency issues which warrant discussion including the relationship between pay and effort. The assumption that a civil servant's individual performance is totally wage inelastic is likely to be invalid. Similarly, the claim that job performance is strictly a function of relative wages is also an exaggerated claim. Between these extremes lies a middle ground which sees wage offers combined with training, civic pride, supervisory practices, promotion opportunities and other characteristics of the work place all affecting worker productivity.

Government wages which are competitive with wage offers in alternative jobs are necessary for attracting qualified staff. Furthermore, changes in the real wages of government workers are likely to influence the performance of staff engaged in government jobs. Rapid erosion in real wages can reduce

work effort as workers turn to other activities, including increased leisure, to supplement declining real government salaries. Such activities might include moonlighting, petty corruption and the pursuit of non-government work during official government hours. Maintaining staff morale under such conditions will become a continuous problem. At an extreme level, government pay may come to be seen by many government workers as a transfer payment, with workers showing up for weekly checks and little else. From a fiscal perspective, while real wage costs may decline, if real services decline more than proportionally, the real unit costs of government goods and services will rise.

A lack of job performance is often a problem in environments where workers receive employment guarantees, but in situations of rapidly eroding take-home pay, worker discipline may fall precipitously. In such cases, a smaller, better-paid civil service might outperform a larger government work force characterized by many poorly paid civil servants. Stated differently, more efficient government production might be achieved by reallocating dwindling resources to fewer workers.

While the impact of pay on performance may become especially severe when real wages decline sharply, an inefficient use of government resources can also occur if government pay is in excess of worker opportunity costs. Governments may even hire the appropriate mix of labor skills, and of labor and non-labor inputs as dictated by production requirements. But if government pays "too much" for these inputs, input use will be inefficient since the same government goods and services could be produced at lower cost.⁴

From a theoretical standpoint inefficient government production of goods and services may be due to government pay and/or employment levels which

are either "too high" or "too low" for either all workers or for selected labor skills. While empirical examples of all possible policy outcomes can probably be identified, in the section to follow attention will be given to what appears to be the common problem areas.

III. Recent Trends

Growing concern at the World Bank over the relationship between government pay and employment policy and government performance is reflected in recent lending patterns. According to a review by Nunberg (1987), prior to 1981 lending for government pay and employment reforms was rare, but between 1981 and 1986 forty-four loans in twenty-three countries have been proposed, and a sizeable number approved. These loans reflect a common view that existing government pay and employment policies are not making the best use of scarce public resources.

While recent Bank lending activity suggests concern over this often neglected policy area, diagnosis of problems and policy remedies remain poorly developed. In fact, much of the lending for government pay and employment policy reform involves further studies as part of technical assistance or structural adjustment packages. Academic research has also been limited.⁵ The available evidence on recent trends is summarized below.⁶ While we are a long way from being able to formulate precise policy guidelines, the evidence does provide a set of warning signals of misdirections and growing imbalances.

A. COMPENSATION

Some cross-country evidence on government compensation patterns is provided by Lindauer, Meesook and Suebsaeng (1987). Their focus is on a number of Sub-Saharan nations, almost all of which were selected for study because of growing concern over prevailing government pay and employment practices. After summarizing these findings, comparisons with nations from other regions of the world will be made.

The basic findings on Sub-Saharan Africa emphasize declining levels of real pay, especially at higher salary grades, and excessive compression of the government pay structure. While worsening macroeconomic conditions are the root cause of these government pay trends, the actual pay and employment policies implemented as part of the adjustment to greater fiscal constraints have often exacerbated the situation. The following has been observed:

(1) In many Sub-Saharan nations, basic starting salaries for government workers, especially for skilled and professional personnel, have declined in real terms since the early to the mid 1970s. This decline has usually been greater than the decline in real GDP per capita suggesting that government workers have borne a greater than average share of the cost of national structural adjustment. (Table 1)

(2) In many cases, especially in Ghana, Nigeria, Sudan and Uganda, the decline in real starting salaries has been precipitous. In these four nations, top officials and professionals witnessed wage erosion on the order of 14% to 35% per annum between, roughly, 1975 and 1983. (Table 1)

(3) Promotions, progression up salary scales and official supplements to basic wages, including cash allowances and payments-in-kind (e.g., government provided housing), have shielded some officials from the real wage adjustment in government pay. However, it does not appear that a fuller accounting of total government compensation significantly alters the general picture presented by basic wage trends alone.

(4) Turning to lower wage government workers, they have generally not experienced as rapid a decline in real salary. In Zambia, for example, government messenger salaries declined in real terms from 1975 to 1983 by -1.6% per annum as compared to a fall in real GDP per capita of -2.4% per annum. (Table 1)

(5) Attempts to maintain a real wage floor for unskilled workers while permitting rapid erosion in salary levels for experienced, professional and administrative staff have led to sharp compression in government internal wage structures. (Table 2)

The consequences of the observed trends are harder to document than the trends themselves. If government workers received pay in excess of their opportunity costs in the early 1970's, real pay erosion could have promoted a more efficient use of government resources. Furthermore, some degree of wage compression is consistent with the growing availability of educated and trained manpower in the Sub-Saharan region. However, it is the extent of the real wage decline and wage compression which may have contributed to growing

inefficiencies in government production. If this has occurred, higher vacancy rates, increased worker turnover, more absenteeism, reductions in work effort, etc. should be evident. Unfortunately, such independent information on government worker behavior has not been systematically collected. Instead, we must rely on anecdotal evidence which suggests that these responses to wage movements have, in fact, taken place. Especially for skilled staff recent pay trends have reduced the attractiveness of government work.⁷

At the lower end of the pay structure, the situation is usually the reverse. With few exceptions (e.g., Sudan), unskilled government worker real pay has been relatively protected. The fact that there remain sizeable queues for such government jobs reflects their attractiveness. Private sector wage opportunities and returns to informal sector activities often are below government unskilled wage offers. Many governments in Africa are, therefore, pursuing policies which subsidize their most abundant labor input. Such practices are especially costly given the frequent expansion of government employment at the lowest ranks. The provision of unskilled government jobs with relatively rigid real wage floors has become a costly transfer payment program which undermines the government's ability to finance efficient production of goods and services.

Outside of the Sub-Saharan region the problems resulting from pay erosion and wage compression are also voiced. (See Table 3 reproduced from Nunberg (1987).) However, even simple statistics on changes in real starting salaries or on the pay structure are rarely presented. The few cases for which information is available include Bangladesh, Jamaica, Sri-Lanka and Thailand (Table 4). The Bangladesh and Jamaica results share much in common

with the extreme cases reported for Africa. Positions at the top of the salary structure have witnessed substantial erosion in a short space of time. In Jamaica, it is reported that vacancy rates for senior staff in line agencies have approached 50%. By comparison, Thai and Sri-Lankan government workers have relatively kept pace with the rest of the economy. This is not to say that existing government pay levels in these nations are optimal, but rather that pay policy has not radically changed in recent years. Pay policy problems, therefore, may result from more long-term and structural characteristics of government compensation levels.⁸

Beyond pay erosion and wage compression lie other problems related to compensation practices. The actual forms of compensation, that is, the significance of basic wages versus special allowances or payments in kind, can generate additional inefficiencies. For example, a profusion of allowances makes monitoring of compensation difficult. This appears to have reached extreme proportions in Peru where basic wages are reported to account for only 35% of total remuneration for more senior positions. Indonesia is reported to have a similar problem. Also in Indonesia, the system of allowances has created incentives at odds with the efficient production of government goods and services. A telling example is an allowance paid for meetings attended. Independent of production requirements, both the number of as well as attendance at meetings is believed to have risen as a result of this pay practice.

In Bolivia, an altogether different obstacle to efficient pay policies presents itself. Lacking a central civil service pay scale, individual ministries set their own salary levels. While, in principle, this policy could encourage inter-agency competition yielding an efficient allocation of

labor within the government, in practice the system appears to encourage the worst elements of individual rent-seeking and the further separation of pay from job performance criteria.

B. EMPLOYMENT

Documenting the size, growth and structure of government employment would appear to be a relatively straight-forward matter. In many developing economies, however, it is not. In some cases it has even proven necessary to conduct a civil service census in order to determine who is actually working for the government. For purposes of cross-country comparisons, available data are limited because no standardized system for collecting public employment statistics exists. Neither the ILO nor any UN agency regularly requests estimates of public employment. What is available are individual country sources which often differ widely according to whether: (1) national, local and/or public enterprise workers are included; (2) actual or budgeted positions are reported; and (3) casual or daily workers are counted. Needless to say, information is even scarcer on how the structure of government employment is changing, that is, on the relative expansion of managerial, professional, skilled and unskilled labor.

According to the data assembled by Ozgediz (1983), reproduced as Table 5, public employment growth in developing nations in the late 1970s, in most cases, well exceeded comparable employment growth in OECD countries. Furthermore, more recent data, Table 6, complement the earlier estimates of high rates of government employment growth. The data suggest that rapid expansion of government employment has been maintained for many years in a significant number of low and lower-middle economies.

Having established basic trends the question remains how to assess these developments. The fact that public employment growth in developing nations exceeds that of advanced economies is not surprising given the higher levels of public employment per capita which characterize more advanced economies.⁹ Furthermore, as noted earlier in this paper, lacking a well defined theory of public production, it is difficult to establish optimum levels of government employment. But certainly, at least, the double digit government employment growth rates must stand as warning signs of growing input mix inefficiencies especially when these rates are in excess of the growth in total government expenditures.¹⁰ It is difficult to believe that in such situations the capacity exists both to finance adequately and productively employ so many new workers. In situations where professional and managerial manpower, and foreign exchange are scarce such rapid growth in public employment is not likely to represent the best use of government resources.

Further reasons to question the appropriateness of rapid expansion of government employment include the motivations behind observed employment growth. Often public employment is enlarged for reasons other than the desire to increase production of public goods and services. The use of government employment as political patronage is but one example. Another is given stagnating agricultural sectors and minimal opportunities for private wage employment, governments use public employment as a tool to combat urban unemployment. Such programs have even been institutionalized as "employer-of-last-resort" policies whereby government guarantees employment for particular types of school leavers.¹¹ While rising unemployment is a problem government must contend with, public employment generation may not be the most efficient

response. This will especially be true if the expansion of government employment leads to a general deterioration in government performance.

Besides "employer-of-last-resort" policies, which generally seem to be on the wane, the often rapid growth in casual or daily paid labor may be motivated by employment objectives independent of government production requirements. In Zambia, for example, from 1978 to 1983 the number of daily paid workers, most of whom were unskilled, grew at 4.2% per annum compared with 1.3% for all permanent civil servants.¹² During this period, copper prices fell precipitously and unemployment was a growing concern. While offering a temporary solution to pressing employment needs, public employment expansion has also strained the government budget and generally contributed to a less than optimal allocation of scarce public resources.

In other settings an increase in government resources, often because of favorable external terms-of-trade, has prompted public employment expansion. This appears to have contributed to employment growth in Bolivia and Nigeria. Such a tendency often leads to employment redundancies and becomes even more problematic when terms-of-trade move unfavorably and the government finds it difficult to shed public workers. This then results in high government employment/low government wage policies which may maintain jobs but at the cost of reduced government performance.¹³

In general, redundancies in government employment in many developing nations have reached extreme levels. Ozgediz (1983) reports, "In Egypt, according to an ILO estimate, overstaffing was close to 42 percent of the total civil service employment in 1976. A recent consultant's study of the

headquarters office of two ministries in a West Africa country identified 6,000 out of a staff of 6,300 as redundant."¹⁴ While there is no single, well-defined algorithm for determining redundancies, micro-level investigations bear out significant overstaffing problems. Rapid growth in public employment has greatly contributed to this problem.

The implications of widespread redundancies on economic growth should not be minimized. In a recent and provocative paper by Gelb, Knight and Sabot (1986), the authors employ a simple CGE model to estimate the impact of, what they term, surplus labor in public employment, on growth in national output per worker. In this model zero marginal product workers no longer reside in the rural sector but instead are to be found in government ministries. The costliness to the economy of these workers, plus the capital in the form of offices, vehicles, etc. they are provided with, is measured in terms of how quickly domestic savings are absorbed to finance the "public employment sink." While the model is intended for heuristic purposes only, it does demonstrate that national standards of living can be dramatically effected when domestic savings are channeled to finance non-productive government workers.

C. WAGE BILL

It is movements in the government's wage bill, more so than direct concern over government performance, which tend to call attention to prevailing government pay and employment policy. In Costa Rica, for example, government current expenditure as a share of GDP grew from 12.6% in 1975 to 14.2% in 1978. Unmatched by revenues, expenditure growth caused the budget deficit to grow, prompting calls for close examination of expenditure increases. Since both wages and employment in the government sector were

found to have increased, government pay and employment policy reforms were formalized and pursued. In Bolivia and Zambia a similar pattern was followed. Growing budget deficits initiated interest in revising prevailing government pay and employment practices. In the majority of cases cited by Nunberg (1987), Table 3, an "excessive" wage bill was diagnosed as a major problem for those nations with World Bank government pay and employment interventions. Many of these diagnoses stemmed from budgetary concerns.

While movements in a government's wage bill are directly relevant to fiscal management and, hence, macroeconomic policy attention should also be paid to the more micro-efficiency implications of wage bill growth. For example, is such growth being driven by increases in wages or employment, or both? If employment growth dominates, is it warranted? Furthermore, are jobs being "financed" by low pay policies and if so, what implication will this have on government performance? Since these issues have already been discussed we turn to one other insight the analysis of the wage bill can offer, namely, the mix of labor and non-labor inputs in government production. Of interest is whether increases in the wage bill "crowd-out" government purchases of non-labor inputs and distort the input mix in government production.

While there exists widespread concern over worsening factor proportions in government production, there has been little systematic analysis of the problem at an aggregate level.¹⁵ What studies are available often highlight the difficulties in assessing factor proportions based on expenditure ratios alone. The measures usually relied upon include the share of the wage bill out of GDP, government revenues, total government expenditures, or government recurrent expenditures. The ratio of wages and salaries to expenditures on

materials and supplies can also be computed from most government financial accounts. Each of these measures captures a different aspect of the wage bill's claim on government resources. For example, the share of government wages in GDP, reported for many nations in Heller and Tait (1983), primarily serves as a proxy for the size of government in the economy. The other measures come closer to assessing the wage bill's claim on resources relative to other inputs.

When the wage bill begins to claim increasing amounts of expenditures, or revenues, this may signal changing factor proportions in government production. An extreme example is offered by Liberia where the wage bill is estimated to have jumped from 36% to 66% of revenues between 1977 and 1981. Reports of widespread shortages of materials throughout the government followed these events.¹⁶ Shortages in complementary inputs, however, may be endemic and not the result of sudden changes in the wage bill's claim on revenues. In the Central African Republic the wage bill/revenue ratio actually fell from 79% to 59% between 1976 and 1984, suggesting some increase in input use relative to labor. However, an independent study of at least one ministry, the Ministry of Rural Development, found 95% of its budget going to wage expenditures leaving a mere 1570 CFAF (roughly \$6) per person per month to cover non-labor operating costs.¹⁷ Real factor proportions may, therefore, be poorly indexed by a simple expenditure ratio due both to changing relative prices and questionable data.

Rwanda provides another example. From 1979 to 1981 the ratio of wages and salaries to current revenues rose dramatically from 34% to 49%. By comparison, the ratio of the wage bill to current expenditures increased only 3%, from 51% to 54%, suggesting a less drastic picture of changing factor

proportions. The difficulty with the wage bill/revenue ratio was its sensitivity to changing coffee prices and its failure to capture other sources of public finance.¹⁸

It might be argued that the ratio of wage payments to material and services purchases is the most direct expenditure index of changing factor proportions. However, this measure also fails to account for changing relative prices. In Bolivia, national accounts suggest a substantial rise in complementary inputs as the wage/purchases ratio fell from 6.2 to 2.5 from 1982 to 1986. According to Klinov (1987), the ratio reflects the dominance of a decline in wages relative to material prices. More detailed inspection of individual ministries reveals that the availability of complementary inputs per worker is little different than it was at the start of the period.¹⁹ Similarly in Ghana, the change in the ratio of the wage bill to expenditures on goods and services has been modest. However, purchases of goods and services in 1983 in real terms equal less than half of the amounts in 1977, while actual employment more than doubled.²⁰ Factor proportions have worsened but available expenditure ratios often fail to capture these changes.

In sum, we do not have any benchmarks for when the ratio of government wages to GDP, government expenditures, revenues, or non-labor purchases becomes "excessive". In fact, because of changing relative prices -- rising material costs and falling real wages -- available ratios may not capture the drift toward deteriorating factor proportions in government production. What seems to be called for is greater attention to how government pay and employment policies influence both the purchase of real inputs and the real labor time productively employing these inputs.

IV. Conclusion

In response to mounting fiscal pressures recent trends in government pay and employment policies, especially in the Sub-Saharan region, suggest the following. Governments frequently have favored the expansion of public employment over maintaining real compensation levels; non-labor inputs have been sacrificed relative to wage bill expenditures; and the real earnings of higher paid staff have been permitted to erode more quickly than those of more unskilled workers. Taken together these tendencies have probably contributed to significant shifts in the input-mix available for government production and in so-doing may have also contributed to a deterioration in the efficiency of public production. These findings suggest that while macroeconomic events can exert considerable pressure for pay and employment reforms, the microeconomic consequences of such policies should not be ignored.

NOTES

- 1 This point is well articulated in Musgrave (1982).
2. The following quotations from two separate World Bank reports on Sub-Saharan Africa voice concern over high government wages spilling over to the private sector:

African wages are high compared with those of Asia...Higher African wages reflect both government wage policy, which in many countries sets industrial wages above the level they would otherwise be, and better opportunities for agricultural employment. World Bank (1981)

Personnel policies in the public sector must also change: they influence urban earnings because the government and public enterprises are the largest employers in most countries. Public sector hiring and wage policies have inflated wages and in many cases left them out of line with productivity and labor costs in other developing countries.... World Bank (1986)

3. An analytical framework for evaluating the impact of government pay and employment decisions on the private sector is presented in Lindauer (1987a).
4. There are, of course, other types of inefficient resource allocation related to government production. These would include the overall mix of public versus private goods as well as the composition of public goods. However, neither of these allocative issues seems to directly depend on a government's choice of pay and employment policy.
5. Cross-country evidence on government pay and employment policy is presented in Harris, Andoh, Evlo and Starr (1987), Heller and Tait (1983), Lindauer, Meesook and Suebsaeng (1987) and Ozgediz (1983). Detailed country studies are available for Bolivia (Klinov (1987), Senegal (Bloch (1985)), Sudan (Lindauer and Meesook (1984)), Thailand (Bloch, Chutikul and Poapongsakorn (1986)) and Zambia (Meesook, Lindauer and Suebsaeng (1986)). A bibliography of academic writing on government pay policy can be found in Lindauer (1987a). A useful collection of articles on government employment with special reference to developed economies is Haveman (1982).
6. The remainder of this paper strictly focuses on government as distinct from public enterprises. Pay and employment policy with regard to state enterprises is considered in Lindauer (1986).
7. One indication of the changing attraction of government work is provided by the observation, at least in Africa, that in contrast to the situation in the 1960's and 1970's, private pay now swamps government wage offers for professional and skilled labor.

8. In Sri Lanka the observation has been made that the government pay structure is significantly "out-of-line" with neighboring countries. A recent report, "A Policy Framework on Cadres and Salaries", by the Administrative Reforms Committee, presented the following data. The ratio of top to bottom salaries in six Asian nations was: Singapore, 62:1; Malaysia, 25.4:1; Pakistan, 19.4:1; India and Bangladesh, 12:1; and, Sri Lanka, 7.5:1. But, as suggested by Table 4 in the text, compression in the Sri Lankan pay structure may be due more to long term factors than short-term real wage movements.
9. Heller and Tait (1983) reveal that even with the rapid growth of government employment in many developing economies, government employment per capita remains far higher in advanced economies. This may, in part, reflect the further development of the welfare state in rich versus poor nations. However, with regard to the development of domestic labor markets, public employment in developing versus developed nations represents a far higher percentage of total wage employment. This helps to explain greater concern in developing country settings over government pay and employment policy spill-over effects.
10. Lindauer (1987b) presents cross-country evidence on recent growth in government expenditures.
11. Egypt is frequently cited as a nation heavily committed to "employer-of-last-resort" policies. Ozgediz (1983) indicates that Cote-d'Ivoire, Mali, Mauritius and Sri Lanka have also pursued such policies in the recent past (p.6). Harris, Andoh, Evlo and Starr (1987) comment that Senegal, Togo, CAR, Guinea, Mali and Sudan, "...got into difficulty in the 1980s by having policies of automatic hiring of all university graduates as output of the educational system began to expand rapidly." (pp. 97-98)
12. Lindauer, Meesook and Suebsaeng (1987), p.19.
13. Klinov (1987) discusses this issue for Bolivia. She summarizes,

Low-wage-high-employment rather than high-wage-low-employment is a preferred combination by workers, because of a conjunction of a small probability of regular salaried employment in the private sector, and the acceptability of moonlighting while working in the public sector. The insurance value of a public-sector job is underlined by the central role of health insurance in workers' compensation: all public-sector employees are insured, as against a very small percent in private-sector employment. When economic conditions in the private sector deteriorate, as they did in the eighties, the pressure for this combination increases. (p.5)
14. Ozgediz (1983), pp. 6-7.

15. Harris, Andoh, Evlo and Starr (1987) offer a multi-country study of wage bill containment in the Sub-Saharan region. This study presents wage bill ratios, over time, for roughly a dozen countries. Although the authors do not provide any direct cross-country comparisons, one can contrast individual nations. What results is a tremendous variance in the wage bill ratios. Wage bill shares out of government expenditures in the mid 1980s range from 18-63%; relative to revenues, 11-59%; and, relative to material purchases; 0.37 to 4.33. More disturbing is that the variance in these ratios seems to bear little resemblance to whether or not complementary inputs are reported to be a problem or, more generally, to the authors' valuation of government performance.
16. Khan (1983), p.11.
17. Harris et al. (1987), pp. 34-40.
18. ibid., pp. 29-33.
19. Klinov (1987), pp. 11-13.
20. Harris et al. (1987), pp. 81-87.

Table 1: Trends in Real Basic Starting Salaries in the Public Sector in Selected African Countries

Country/Level	Annual Rate of Growth (%)	
	Period	Salary Real GDP/Capita
<u>Ghana</u>	1977-1983	- 4.8
2 Principal Secretary/Director		-30.8
5 Office/Administrative III/ Senior Works Superintendent		-26.9
10 Messenger/Watchman/Laborer		-14.3
<u>Malawi</u>	1975-1983	1.2
S ₅ Undersecretary		- 5.3
A ₃ University Graduate		- 3.7
D ₆ Messenger		- 2.0
<u>Nigeria</u>	1975-1983	- 2.1
17 Permanent Secretary		-13.9
8 University Graduate		-11.4
1 Unskilled Laborer		- 5.5
<u>Senegal</u>	1976-1984	- 2.6
A With university degree		- 3.7
B With secondary school diploma		- 2.1
E No diploma		1.5
<u>Sierra Leone</u>	1975-1980	0.2
Deputy Secretary		- 9.1
Technical Officer		- 6.8
Messenger		0.7
<u>Sudan</u>	1975-1983	-5.2 ^a
4 Deputy Undersecretary		-14.4
9 University Graduate		-13.5
14 Secondary School Graduate		-13.3
18 Unskilled Worker		-12.3
<u>Uganda</u>	1976-1983	-3.2
U1 Permanent Secretary/Under Secretary		-34.8
U5 Entering University Graduate Group Employee		-33.3 -23.5
<u>Zambia</u>	1975-1983	-2.4
S ₃ Undersecretary		- 9.5
S ₁₂ Entering University Graduate		-10.6
S ₂₁ Lowest Salaried Employee		- 2.3
Laborer		- 1.6

a. 1975-1982.

Source: Lindauer, Meesook and Suebsaeng (1987); Table 3

Table 2: Salary Compression^a in Selected African Countries, 1970-1983

Country/Level	1970	1975	1980	1983	Total Percentage Change in Salary Compression, 1975-83
<hr/>					
<u>Malawi</u>					
Civil Service:					
Undersecretary/unskilled	n.a.	33.0	30.0	29.8	-9.7%
<u>Nigeria</u>					
Civil Service:					
Permanent Secretary/ unskilled	21.9 ^b	17.6	15.4	9.2	-47.7%
<u>Sudan</u>					
Civil Service:					
Deputy Undersecretary/ unskilled	13.0	13.1	10.8	9.3	-29.0%
<u>Zambia</u>					
Civil Service:					
Undersecretary/lowest salaried employee	19.2 ^c	14.5	10.3	6.9	-52.4%
<hr/>					

a. Salary compression is measured as the ratio of basic starting salaries of the highest to the lowest skill categories for which data are available.

b. 1972

c. 1971

Source: Lindauer, Meesook and Suebsaeng (1987); Table 5.

**Table 3: Major Diagnosed Problems For Countries
With Bank Employment/Pay Interventions**

Excessive Wage Bill	Surplus Civil Servants	Salary Erosion	Salary Compression
Bangladesh	Bangladesh	Bangladesh	Bangladesh
Bolivia	Bolivia	Bolivia	Bolivia
CAR	CAR	Jamaica	Guyana
Costa Rica	Costa Rica	Mali	Jamaica
Gambia	Gambia	Peru	Peru
Ghana	Ghana	Thailand	Thailand
Guyana	Guinea		
Haiti	Guyana		
Jamaica	Haiti		
Malawi	Jamaica		
Mauritania	Mali		
Niger	Mauritania		
Senegal	Niger		
Sierra Leone	Senegal		
Togo	Sierra Leone		
Uganda	Sri Lanka		
	Togo		
	Turkey		
	Uganda		

Source: Nunberg (1987), Table 5.

**Table 4: Trends in Real Basic Starting Salaries in
the Public Sector, Selected Countries**

Country/Level	Annual Rate of Growth (%)		
	Period	Salary	Real GDP Capita
<u>Bangladesh</u>	1970-83		
Senior Civil Servants		-16.2%	1.3
<u>Jamaica</u>	1972-82		
Top of Scale		-8.8% to -11.3%	-3.0
Bottom of Scale		- 2.7%	
<u>Sri Lanka</u>	1975-83		
Administrative Post (Class I; Grade II)		- 3.6%	3.6
Unskilled		4.8%	
<u>Thailand</u>	1976-84		3.8
Grade 9 - Deputy Director General		- 1.5%	
Grade 1 - Secondary Education Required		- 2.3%	

Sources: Bangladesh: World Bank Report No. 4822, Bangladesh: Economic Trends and Development Administration, Feb. 27, 1984; p. 111. Jamaica: World Bank Report No. P-3796-JM, Public Administration Reform Project, May 3, 1984, pp. 9-10. Sri Lanka: Research notes, B. Nunberg (1987), World Bank, Table 4. Thailand: World Bank Background Paper, P. Bloch, S. Chutikul and N. Poapongsakon, "Public Sector Employment in Thailand", p. 58.

Table 5: Growth in Public Employment

Country	Period	Average annual growth rate (%)
Developing countries		
Zaire	1976-78	15.0 ^b
Mexico	1970-79	13.1
Burundi	1976-80	12.5
Nigeria	1970-76	11.1
Ecuador	1970-76	10.1
Honduras	1977-81	10.1
Cameroon	1976-81	9.1
Egypt	1977-79	7.7 ^b
Portugal	1976-80	7.7 ^b
Mauritius	1974-80	7.5
Malawi	1971-76	7.5 ^b
Thailand	1967-77	7.3
Madagascar	1977-80	6.9
Kenya	1972-79	5.5
Yemen Arab Republic	1977-80	5.3
Bolivia	1976-81	4.9 ^b
Philippines	1977-79	3.7 ^b
India	1976-80	3.3
Turkey	1976-80	2.3
Argentina	1976-81	0.1
Industrial countries		
Sweden	1976-80	5.2
Australia	1976-80	4.5
Denmark	1976-79	3.6 ^b
Norway	1976-80	3.3
Belgium	1976-80	2.7
Finland	1976-80	2.6
Netherlands	1970-80	2.3
France	1976-81	2.0 ^b
Germany, Fed. Rep. of	1977-80	1.5
United States	1976-81	1.4
Japan	1976-80	1.1
Austria	1976-80	0.2
Switzerland	1976-80	0.1 ^b
United Kingdom	1976-80	-0.01
Canada	1976-80	-0.8

a. The definition of public employment varies across countries though for most it includes only the central and local government employees. See Annex to Ozgediz (1983) for sources and definitions.

b. Includes the growth of employment in public enterprises.

Table 6: Growth in Central Government Employment

<u>Country</u>	<u>Years</u>	<u>Growth in Employment (%/Annum)</u>
Ghana	1975-82	15.0
Haiti	1979-82	10.0
Costa Rica	1973-79	9.8
Nigeria	1977-83	8.6
Malawi	1977-83	7.9
Ethiopia	1974-81	6.5
Thailand	1979-84	6.2
Bolivia	1975-85	5.6
Senegal	1976-80	5.4
Malaysia	1975-85	4.7
Peru	1970-78	4.3
Sudan	1975-83	2.6
Singapore	1975-84	1.8
Sri Lanka	1975-85	1.7
Zambia	1975-80	0.7
Guyana	1981-85	-1.2

Source: Various World Bank Reports.

Bibliography

- Bloch, P. (1985), "Wage Policy, Wage Structure and Employment in the Public Sector of Senegal," World Bank Country Policy Department Discussion Paper No. 1985-41, Washington, D.C.
- Bloch, P., S. Chutikul and N. Poapongsakorn (1986), "Public Sector Employment in Thailand," a background paper for the World Bank Economic Report on Thailand, February, 1986, Washington, D.C.
- Gelb, A., P. Knight and R. Sabot (1986), "Lewis Through a Looking Glass: Public Sector Employment, Rent-Seeking and Economic Growth," working paper of the Employment and Enterprise Policy Analysis Project, Harvard Institute for International Development, Cambridge, MA.
- Harris, J., E. Andoh, K. Evlo and M. Starr (1987), "Experiments in Wage-Bill Containment in Africa," paper produced for the World Bank Special Office for Africa, Washington, D.C.
- Haveman, R., ed. (1982), Public Finance and Public Employment, (Detroit: Wayne State University Press).
- Heller, P. and A. Tait (1983), "Government Employment and Pay: Some International Comparisons," International Monetary Fund Occasional Paper No. 24, Washington, D.C.
- Khan, A. (1983), "Employment and Wages in Liberia: Some Preliminary Notes With Special Reference to the Public Sector," World Bank Country Policy Department, processed, Washington, D.C.
- Klinov, R. (1987), "Public Sector Wages and Employment in Bolivia," World Bank Development Research Department, processed, Washington, D.C.
- Lindauer, D. (1986), "Parastatal Pay Policy in Africa," World Bank Country Policy Department Discussion Paper No. 1986-31, Washington, D.C.
- Lindauer, D. (1987a), "Government Wage and Employment Policy: An Analytical Treatment with Special Reference to Africa," World Bank Country Policy Department Discussion Paper No. 1987-3, Washington, D.C.
- Lindauer, D. (1987b), "The Size and Growth of Government Expenditures," World Bank background paper for the 1988 World Development Report, Washington, D.C.
- Lindauer, D. and O. Meesook (1984), "Public Sector Pay and Employment Policy in the Sudan," World Bank Country Policy Department Discussion Paper No. 1984-33, Washington, D.C.

- Lindauer, D., O. Meesook and P. Suebsaeng (1987), "Government Wage Policy in Africa: Some Findings and Policy Issues," World Bank Country Policy Department Discussion Paper No. 1986-24, Washington, D.C., also forthcoming in the World Bank Research Observer.
- Meesook, O., D. Lindauer and P. Suebsaeng (1986), "Wage Policy and the Structure of Wages and Employment in Zambia," World Bank Country Policy Department Discussion Paper No. 1986-1, Washington, D.C.
- Musgrave, R. (1982), "Why Public Employment?" in ed. R. Havemen, Public Finance and Public Employment (Detroit: Wayne State University Press).
- Nunberg, B. (1987), "Public Sector Pay and Employment Policy Issues in Bank Lending: An Interim Review of Experience," World Bank, processed, Washington, D.C.
- Ozgediz, S. (1983), "Managing the Public Service in Developing Countries," World Bank Staff Working Papers, No. 583, World Bank, Washington, D.C.
- World Bank (1981), Accelerated Development in Sub-Saharan Africa, Washington, D.C.
- World Bank (1986), Financing Adjustment With Growth in Sub-Saharan Africa, 1986-90, Washington, D. C.

PPR Working Paper Series

	<u>Title</u>	<u>Author</u>	<u>Date</u>	<u>Contact</u>
WPS19	Cote d'Ivoire's Vocational and Technical Education	Christiaan Grootaert	June 1988	R. Vartanian 34678
WPS20	Imports and Growth in Africa	Ramon Lopez Vinod Thomas	June 1988	61679
WPS21	Effects of European VERs on Japanese Autos	Jaime de Melo Patrick Messerlin	June 1988	S. Fallon 61680
WPS22	Methodological Problems in Cross-Country Analyses of Economic Growth	Jean-Paul Azam Patrick Guillaumont Sylviane Guillaumont	June 1988	E. Zamora 33706
WPS23	Cost-Effective Integration of Immunization and Basic Health Services in Developing Countries: The Problem of Joint Costs	A. Mead Over, Jr.	July 1988	N. Jose 33688
WPS24	World Bank Investments in Vocational Education and Training	John Middleton Terri Demsky	July 1988	W. Ketema 33651
WPS25	A Comparison of Alternative Training Modes for Youth in Israel: Results from Longitudinal Data	Adrian Ziderman	July 1988	W. Ketema 33651
WPS26	Changing Patterns in Vocational Education	John Middleton	July 1988	W. Ketema 33651
WPS27	Family Background and Student Achievement	Marlaine E. Lockheed Bruce Fuller Ronald Nyirongo	July 1988	R. Rinaldi 33278
WPS28	Temporary Windfalls and Compensation Arrangements	Bela Balassa	June 1988	N. Campbell 33769
WPS29	The Relative Effectiveness of Single-Sex and Coeducational Schools in Thailand	Emmanuel Jimenez Marlaine E. Lockheed		

PPR Working Paper Series

	<u>Title</u>	<u>Author</u>	<u>Date</u>	<u>Contact</u>
WPS30	The Adding Up Problem	Bela Balassa		
WPS31	Public Finance and Economic Development	Bela Balassa		
WPS32	Municipal Development Funds and Intermediaries	Kenneth Davey	July 1988	R. Blade-Chares 33754
WPS33	Fiscal Policy in Commodity-Exporting LDCs	John Cuddington	July 1988	R. Blade-Chares 33754
WPS34	Fiscal Issues in Macroeconomic Stabilization	Lance Taylor		
WPS35	Improving the Allocation and Management of Public Spending: Some Lessons of African Experience	Stephen Lister		
WPS36	Means and Implications of Social Security Finance in Developing Countries	Douglas J. Puffert		
WPS37	Black Market Premia, Exchange Rate Unification and Inflation in Sub-Saharan Africa	Brian Pinto	July 1988	R. Blade-Chares 33754
WPS38	Intergovernmental Grants in Developing Countries	Larry Schroeder		
WPS39	Fiscal Policy in Low-Income Africa	Stephen A. O'Connell	July 1988	R. Blade-Chares 33754
WPS40	Financial De-regulation and the Globalization of Capital Markets	Eugene L. Versluysen	August 1988	R. Blade-Chares 33754
WPS41	Urban Property Tax Reform in Developing Countries	William Dillinger		
WPS42	Government Pay and Employment Policies and Government Performance in Developing Economies	David L. Lindauer	August 1988	R. Blade-Chares 33754